查询REC3-0505DRW/H4供应商

## Features

**Regulated Converters**

- UL-60950-1 / CSA C22.2 certified
- 3W DIP Package
- 4kVDC & 6kVDC Isolation
- Regulated Output
- Continuous Short Circuit Protection Auto-Restarting
- Wide Input 2:1 & 4:1
- UL94V-0 Package Material
- Cost Effective
- 100% Burned In
- Efficiency to 86%

# ECONOLINE

DC/DC-Converter

# REC3-S_DRW/H4, H6 Series

## 3 Watt DIP24 / SMD Single & Dual Output

### Selection Guide

| Part Number DIP24 | Input Voltage (VDC) | Output Voltage (VDC) | Output Current (mA) | Efficiency (%) |
|---|---|---|---|---|
| REC3-xx3.3SRW (H4/H6) | 4.5 - 9, 9 - 18, 18 - 36, 36 - 72 | 3.3 | 900 | 66-76 |
| REC3-xx05SRW (H4/H6) | 4.5 - 9, 9 - 18, 18 - 36, 36 - 72 | 5 | 600 | 71-79 |
| REC3-xx09SRW (H4/H6) | 4.5 - 9, 9 - 18, 18 - 36, 36 - 72 | 9 | 330 | 74-83 |
| REC3-xx12SRW (H4/H6) | 4.5 - 9, 9 - 18, 18 - 36, 36 - 72 | 12 | 250 | 75-85 |
| REC3-xx15SRW (H4/H6) | 4.5 - 9, 9 - 18, 18 - 36, 36 - 72 | 15 | 200 | 75-86 |
| REC3-xx05DRW (H4/H6) | 4.5 - 9, 9 - 18, 18 - 36, 36 - 72 | ±5 | ±300 | 74-83 |
| REC3-xx12DRW (H4/H6) | 4.5 - 9, 9 - 18, 18 - 36, 36 - 72 | ±12 | ±125 | 75-85 |
| REC3-xx15DRW (H4/H6) | 4.5 - 9, 9 - 18, 18 - 36, 36 - 72 | ±15 | ±100 | 75-86 |
| REC3-xx3.3SRWZ (H4/H6) | 9 - 36, 18 - 72 | 3.3 | 850 | 77-79 |
| REC3-xx05SRWZ (H4/H6) | 9 - 36, 18 - 72 | 5 | 600 | 78-80 |
| REC3-xx09SRWZ (H4/H6) | 9 - 36, 18 - 72 | 9 | 330 | 80-83 |
| REC3-xx12SRWZ (H4/H6) | 9 - 36, 18 - 72 | 12 | 250 | 83-85 |
| REC3-xx15SRWZ (H4/H6) | 9 - 36, 18 - 72 | 15 | 200 | 83-85 |
| REC3-xx05DRWZ (H4/H6) | 9 - 36, 18 - 72 | ±5 | ±300 | 77-80 |
| REC3-xx12DRWZ (H4/H6) | 9 - 36, 18 - 72 | ±12 | ±125 | 83-85 |
| REC3-xx15DRWZ (H4/H6) | 9 - 36, 18 - 72 | ±15 | ±100 | 83-85 |

**2:1** Input (REC3-S/DRWH4/H6)
xx = 4.5-9Vin = 05
xx = 9-18Vin = 12
xx = 18-36Vin = 24
xx = 36-72Vin = 48

**4:1** Input (REC3-S/DRWZ(H4/H6))
xx = 9-36Vin = 24
xx = 18-72Vin = 48

* add suffix "/H4" for 4kVDC isolation and "/H6" for 6kVDC isolation
add suffix "/**A**" or "/**C**" for Pinning, see next page
"**B**" Pinning is NOT available for this series !
add suffix "/**M**" for metal case
e.g. REC3-2412SRW/H4/AM = 4kVDC isol. / Pinout "**A**" / metal case

### Notes :

1. If the options "/**M**" for metal case and "/**SMD**" for SMD pinout are combined the maximum allowed isolation voltage is 2kVDC because of the shoter distances between pins and metal-case, so only available SMD-option in metal-case is "/**H2**".
DIP-24 through-hole case and SMD-plastic case are not affected and offer the desired isolation barriers of 4kVDC for "/H4" option and 6kVDC for "/H6".

### Description

This series offers high isolation of 4kVDC (= option "H4") or 6kVDC (= option "H6") making it ideal for medical applications and other sophisticated industrial applications. UL-1950 approval of this series is is applied for. Packaging can be either DIP-24 non-conductive plastic or 5-side-shielded DIP24 metal case (= option "M") as well as DIP24-SMD case (= option "SMD"). For all the above variants, 2 industry-standard-pinouts (= option "A" or "C") are available.

### Specifications (Core Operating Area)

| | | |
|---|---|---|
| Input Voltage Range | | 2:1 & 4:1 |
| Output Voltage Accuracy | | ±2% max. |
| Line Regulation (HL-LL) | 2:1 Input types | ±0.4% max. |
| | 4:1 Input types | ±0.3% max. |

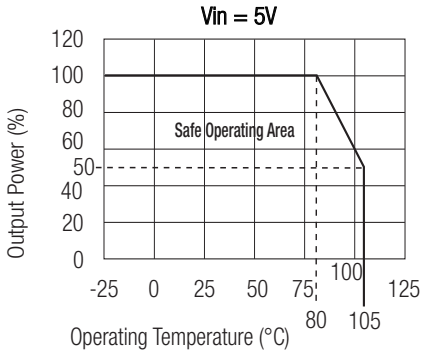
continued on next page

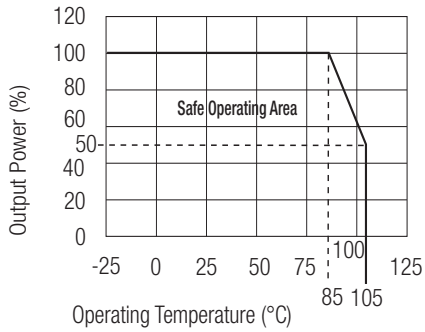
# REC3-S_DRW/H4,H6 Series

## Specifications (Core Operating Area)

| | | |
|---|---|---|
| Load Regulation (for output load current change from 20% to 100%) | | ±0.6% max. |
| Output Ripple and Noise (0,1µF capacitor on output, 20MHz BW) | | 50mVp-p max. |
| Switching Frequency at Full Load and nominal Input Voltage | 2:1 Input types | 90kHz min. / 150kHz max. |
| | 4:1 Input types | 120kHz min. / 180kHz max. |
| Input Filter | | Pi Network |
| Efficiency at Full Load | | see above |
| Isolation Voltage SMD Pinout and metal case (see note1) Rated Working Voltage | (tested for 1 second) (long term isolation) | 2.000VDC min. see Application Notes |
| Isolation Voltage H4 types Rated Working Voltage | (tested for 1 second) (long term isolation) | 4.000VDC min. see Application Notes |
| Isolation Voltage H6 types Rated Working Voltage | (tested for 1 second) (long term isolation) | 6.000VDC min. see Application Notes |
| Isolation Capacitance | 2:1 Input types | 20pF min. / 60pF max. |
| | 4:1 Input types | 40pF min. / 80pF max. |
| Isolation Resistance | | 1 GΩ min. |
| Short Circuit Protection | | Continuous, Auto Restart |
| Operating Temperature Range (free air convection) | 5V input types | -25°C to +80°C (see Graph) |
| | others | -25°C to +85°C (see Graph) |
| Storage Temperature Range | | -55°C to +125°C |
| Relative Humidity | MSL Level 1 | 95% RH |
| Case Material | | Non-Conductive Plastic |
| Thermal Impedance | Natural convection | 20°C/W for metal case |
| Package Weight | | 12 g |
| MTBF (+25°C) } *Detailed Information see Application Notes chapter "MTBF"* | using MIL-HDBK 217F | 1043 x $10^3$ hours |
| MTBF (+85°C) } *Detailed Information see Application Notes chapter "MTBF"* | using MIL-HDBK 217F | 186 x $10^3$ hours |

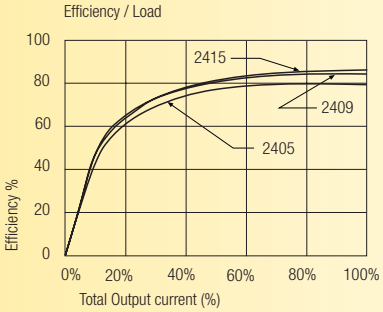
## Derating-Graph (Ambient Temperature)



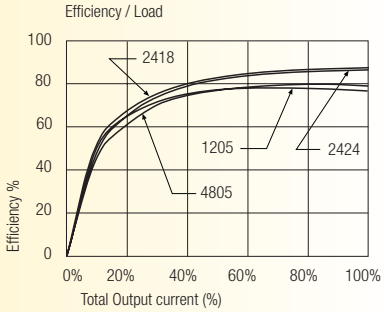




## Typical Characteristics

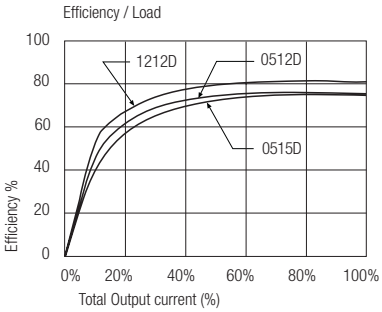
### Single 2:1 Input



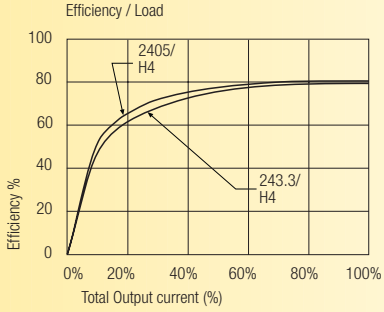

### Single 2:1 Input



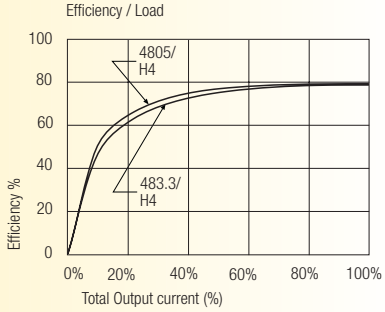

### Dual 2:1 Input



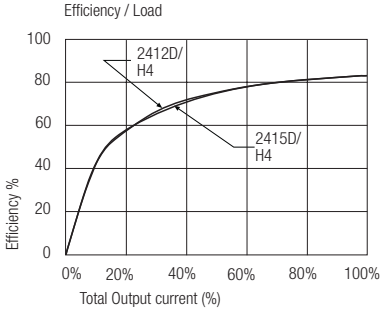

### Single 4:1 Input




### Single 4:1 Input



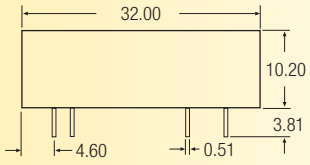

### Dual 4:1 Input

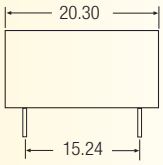


# REC3-S_DRW/H4,H6 Series

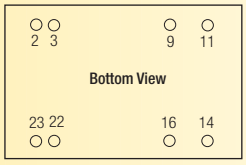
## Package Style and Pinning (mm) DIP 24 , Wide Input 2:1 & 4:1

### Package A

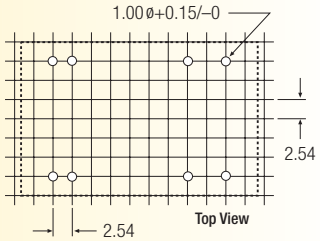



3rd angle projection




Recommended Footprint Details

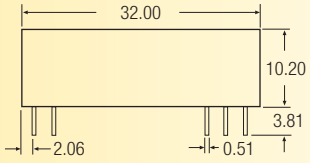


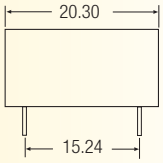

**Pin Connections**

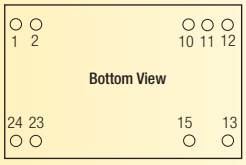
| Pin # | Single | Dual |
|---|---|---|
| 2 | –Vin | –Vin |
| 3 | –Vin | –Vin |
| 9 | NC | Com |
| 11 | NC | –Vout |
| 14 | +Vout | +Vout |
| 16 | – Vout | Com |
| 22 | +Vin | +Vin |
| 23 | +Vin | +Vin |

NC = No Connection
XX.X ± 0.5 mm
XX.XX ± 0.25 mm

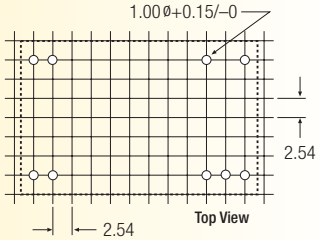
### Package C




Recommended Footprint Details

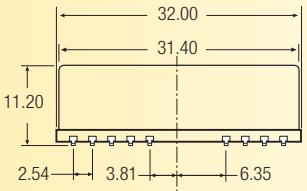


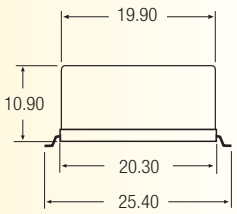

**Pin Connections**

| Pin # | Single | Dual |
|---|---|---|
| 1 | +Vin | +Vin |
| 2 | +Vin | +Vin |
| 10 | NC | Com |
| 11 | NC | Com |
| 12 | –Vout | NC |
| 13 | + Vout | –Vout |
| 15 | NC | +Vout |
| 23 | –Vin | –Vin |
| 24 | –Vin | –Vin |

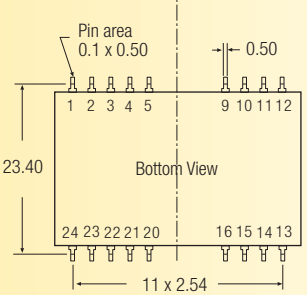
NC = No Connection
XX.X ± 0.5 mm
XX.XX ± 0.25 mm

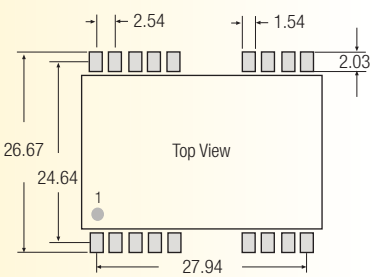
## Mechanical drawings of DIP24 SMD case




Recommended Footprint Details




Tol.: ± 0.35 mm

for all packages incl.SMD case the length of plastic case is 31,8mm, length of metal case 32.0mm